## IN THE CLAIMS

**Please amend the claims as follows:**

1.      (currently amended) A method for identifying one or more optimum configurations of a data processing system, said method comprising:

    determining if a an operable current configuration of a plurality of hardware adapters and an interconnect of said data processing system is optimized for system performance utilizing testing criteria, wherein said determining includes determining if said operable current configuration maximizes data transfer rate between said plurality of hardware adapters and said interconnect;

    in response to determining said current operable configuration is not optimized, generating alternate configurations of said plurality of hardware adapters and said interconnect;

    analyzing said alternate configurations utilizing said testing criteria to identify at least one configuration optimized for system performance;

    in response to identifying at least one configuration optimized for system performance, presenting said at least one configuration optimized for system performance to a user; and

    in response to not identifying a configuration optimized for system performance, altering said testing criteria and again analyzing said alternate configurations.

2.      (cancelled)

3.      (original) The method according to claim 1, said generating further includes:

    constructing a tree structure in which said current configuration is a root node and said alternate configurations are child nodes of said root node.

4.      (original) The method according to claim 3, wherein said testing criteria comprises first testing criteria, said method further comprising:

    rejecting an alternate configuration if said alternate configuration does not meets said first testing criteria.

5.      (original) The method according to claim 4, wherein said rejecting further comprises:

testing said alternate configuration for improper placement of at least a plurality of hardware adapters on a plurality of interconnect segments.

6.      (original) The method according to claim 5, wherein said testing further includes:

for a candidate configuration, designating a fastest setting supported by said interconnect as a chosen setting;

determining whether or not  a number of a plurality of hardware adapters that support said chosen setting (NADAPTERS) equals a number of a plurality of interconnect segments coupled to at least a hardware adapter that supports said chosen setting (NSEGMENTS);

in response to determining NADAPTERS does not equal NSEGMENTS, determining whether or not at least one of said plurality of hardware adapters can be moved to an empty one of said plurality of interconnect segments; and

in response to determining at least one of said plurality of hardware adapters can be moved to an empty one of said plurality of  interconnect segments, determining said candidate configuration is not an optimal configuration.

7.      (original) The method according to claim 6, wherein said testing further comprises:

in response to determining NADAPTERS equals NSEGMENTS, determining whether or not there is at least a slower setting than said chosen setting;

in response to determining there is at least a slower setting, designating said slower setting as said chosen setting;

in response to determining there is not at least a slower setting, determining said candidate configuration is said optimal configuration.

8.      (original) The method according to claim 3, said constructing further includes:

constructing said tree structure such that said alternate configurations are variations of said current configuration obtained by performing one alteration to said current configuration.

9.      (currently amended) A system for identifying one or more optimum configurations of a data processing system, said system comprising:

an interconnect;

a processor, coupled to said interconnect;

a memory coupled to said processor; and

a system resource optimizer resident in said memory and executable by said processor to determine if a an operable current configuration of a plurality of hardware adapters and said interconnect of said data processing system is optimized for system performance utilizing testing criteria, wherein said system resource optimizer determines if said operable current configuration maximizes data transfer rate between said plurality of hardware adapters and said interconnect, wherein responsive to a determination that said operable current configuration is not optimized, said system optimizer generates alternate configurations of said plurality of hardware adapters and said interconnect and analyzes said alternate configurations with said testing criteria to identify at least one configuration optimized for system performance that is presented to a user, and wherein responsive to failing to identify at least one configuration optimized for system performance, said system optimizer alters said testing criteria and again analyzes said alternate configurations.

10.     (cancelled)

11.     (original) The system according to claim 9, said system optimizer further comprising:

means for constructing a tree structure in which said current configuration is a root node and said alternate configurations are child nodes of said root node.

12.     (original) The system according to claim 11, wherein said testing criteria comprises first testing criteria, said system further comprising:

means for rejecting an alternate configuration if said alternate configuration does not meet said first testing criteria.

13.    (original) The system according to claim 12, wherein said means for rejecting further comprises:

means for testing said alternate configuration for improper placement of at least a plurality of hardware adapters on a plurality of interconnect segments.

14.    (original) The system according to claim 13, wherein said means for testing further includes:

for a candidate configuration, means for designating a fastest setting supported by said interconnect as a chosen setting;

means for determining whether or not a number of a plurality of hardware adapters that support said chosen setting (NADAPTERS) equals a number of a plurality of interconnect segments coupled to at least a hardware adapter that supports said chosen setting (NSEGMENTS);

means, responsive to determining NADAPTERS does not equal NSEGMENTS, for determining whether or not at least one of said plurality of hardware adapters can be moved to an empty one of said plurality of interconnect segments; and means, responsive to determining at least one of said plurality of hardware adapters can be moved to an empty one of said plurality of interconnect segments,    for determining said candidate configuration is not an optimal configuration.

15.    (original) The system according to claim 14, wherein said means for testing further comprises:

means for determining whether or not there is at least a slower setting than said chosen setting, if NADAPTERS equals NSEGMENTS;

means, responsive to determining there is at least a slower setting, for designating said slower setting as said chosen setting;

means, responsive to determining there is not at least a slower setting, for determining said candidate configuration is said optimal configuration.

16.    (original) The system according to claim 11, said means for constructing further comprising:

        means for constructing said tree structure such that said alternate configurations are variations of said current configuration obtained by performing one alteration to said current configuration.

17.    (currently amended) A computer program product comprising:

        a computer-usable medium; and

        a system resource optimizer encoded within said computer-usable medium to determine if ~~a~~ an operable current configuration of a plurality of hardware adapters and an interconnect of ~~said~~ a data processing system is optimized for system performance utilizing testing criteria, wherein said system resource optimizer determines if said operable current configuration maximizes data transfer rate between said plurality of hardware adapters and said interconnect, wherein responsive to a determination that said operable current configuration is not optimized, said system optimizer generates alternate configurations of said plurality of hardware adapters and an interconnect and analyzes said alternate configurations with said testing criteria to identify at least one configuration optimized for system performance that is presented to a user; and wherein responsive to failing to identify at least one configuration optimized for system performance, said system optimizer alters said testing criteria and again analyzes said alternate configurations.

18.    (cancelled)

19.    (original) The computer program product according to claim 17, said instructions for generating further includes:

        instructions, encoded within said computer-usable medium, for constructing a tree structure in which said current configuration is a root node and said alternate configurations are child nodes of said root node.

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20.    (original) The computer program product according to claim 19, wherein said testing criteria comprises first testing criteria, said computer program product further comprises:

instructions, encoded within said computer-usable medium, for rejecting an alternate configuration if said alternate configuration does not meet said first testing criteria.

21.    (original) The computer program product according to claim 20, wherein said instructions for rejecting further comprises:

instructions, encoded within said computer-usable medium, for testing said alternate configuration for improper placement of at least a plurality of hardware adapters on a plurality of interconnect segments.

22.    (original) The computer program product according to claim 21, wherein said instructions for testing further includes:

for a candidate configuration, instructions, encoded within said computer-usable medium, for designating a fastest setting supported by said interconnect as a chosen setting;

instructions, encoded within said computer-usable medium, for determining whether or not   a number of a plurality of hardware adapters that support said chosen setting (NADAPTERS) equals a number of a plurality of interconnect segments coupled to at least a hardware adapter that supports said chosen setting (NSEGMENTS);

in response to determining NADAPTERS does not equal NSEGMENTS, instructions, encoded within said computer-usable medium, for determining whether or not at least one of said plurality of hardware adapters can be moved to an empty one of said plurality of interconnect segments; and

in response to determining at least one of said plurality of hardware adapters can be moved to an empty one of said plurality of interconnect segments, instructions, encoded within said computer-usable medium, for determining said candidate configuration is not an optimal configuration.

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23.    (original) The computer program product according to claim 22, wherein said instructions for testing further comprises:

in response to determining NADAPTERS equals NSEGMENTS, instructions, encoded within said computer-usable medium, for determining whether or not there is at least a slower setting than said chosen setting;

in response to determining there is at least a slower setting, instructions, encoded within said computer-usable medium, for designating said slower setting as said chosen setting;

in response to determining there is not at least a slower setting, instructions, encoded within said computer-usable medium, for determining said candidate configuration is said optimal configuration.

24.    (original) The computer program product according to claim 19, said constructing further includes:

instructions, encoded within said computer-usable medium, for constructing said tree structure such that said alternate configurations are variations of said current configuration obtained by performing one alteration to said current configuration.

25.    (newly added) The method according to claim 1, wherein said determining further includes:

determining if said operable current configuration of said plurality of hardware adapters and said interconnect is optimized for system performance utilizing testing criteria, wherein said operable current configuration is a collection of physical connections to said interconnect.

26.    (newly added) The system according to claim 9, wherein said operable current configuration further comprises:

a collection of physical connections to said interconnect.

27.    (newly added) The computer program product according to claim 17, wherein said operable current configuration further comprises:

a collection of physical connections to said interconnect.